STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0028720
Owner:	City of O'Fallon
Address:	100 North Main Street, O'Fallon, MO 63366
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	O'Fallon Wastewater Treatment Plant
Address:	150 Firma Road, O'Fallon, MO 63366
Legal Description:	See page 2
Receiving Stream:	See page 2
First Classified Stream and ID:	See page 2
USGS Basin & Sub-watershed No.:	(07110009-010002)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

See page 2

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

December 12, 2003
Effective Date

June 25, 2004
Revised Date

Stephen M. Mahfood, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

December 11, 2003
Expiration Date

Mohamad Alhalabi, P.E., Director, St. Louis Regional Office

MO 780-0041 (10-93)

FACILITY DESCRIPTION (continued)

Outfall #001 - POTW - SIC #4952
Bio-filters/activated sludge/chlorination/aerobic digester/lime stabilization/belt filter press/land application of sludge biosolids.
Design population equivalent is 93,000.
Design flow is 10.0 MGD.
Actual flow is 9.0 MGD.
Design sludge production is 2,800 dry tons/year.

Outfalls #002 & #003 - Stormwater

Outfalls #004, #005, & #006 – In stream sampling locations.

LEGAL DESCRIPTION

Outfall #001: U.S.S. 1687, Sec. 26, T48N, R3E, (projected), St. Charles County
+3853481/-09038521
Mississippi River (P)
Mississippi River (P) (00001)

Outfall #002: #003:U.S.S. 469, SW ¼, Sec. 9, T47N, R3E, (projected), St. Charles County
+3850240/-09041438
Peruque Creek (P)
Peruque Creek (P) (00216)

Outfall #004: NW ¼, NE ¼, Sec. 26, T48N, R3E, St. Charles County
+3853487/-09053487
Mississippi River (P)
Mississippi River (P) (00001)

Outfall #005: SE ¼, NW ¼, Sec. 26, T48N, R3E, St. Charles County
+3853368/-09038591
Peruque Creek (P)
Peruque Creek (P) (00216)

Outfall #006: NW ¼, NE ¼, Sec. 26, T48N, R3E, St. Charles County
Mississippi River (P)
Mississippi River (P) (00001)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect until December 31, 2004. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Flow	MGD	*		*	once/day	24 hr. total
Carbonaceous Biochemical Oxygen Demand$_5$	mg/L		45	25	once/day	24 hr. comp.
Total Suspended Solids	mg/L		45	30	once/day	24 hr. comp.
Dissolved Oxygen	mg/L	*		*	once/week	grab
Temperature	°C	*			once/day	grab
pH – Units	SU	**		**	once/day	grab
Oil & Grease	mg/L	15		10	once/month	grab
Fecal Coliform***	#/100mL	1000		400	once/week	grab
Total Residual Chlorine (Note 1)	mg/L	1.0		1.0	once/day	grab
Organic Nitrogen	mg/L	*		*	once/month	grab
Ammonia Nitrogen	mg/L	*		*	once/month	grab
Nitrite & Nitrate	mg/L	*		*	once/month	grab
Total Phosphorus	mg/L	*		*	once/month	grab
Hardness as $CaCO_3$	mg/L	*		*	once/month	grab
Arsenic, Dissolved	µg/L	*		*	once/month	24 hr. comp.
Cadmium, Total Recoverable	µg/L	*		*	once/month	24 hr. comp.
Chromium, Dissolved	µg/L	*		*	once/month	24 hr. comp.
Copper, Dissolved	µg/L	*		*	once/month	24 hr. comp.
Lead, Dissolved	µg/L	*		*	once/month	24 hr. comp.
Mercury, Total Recoverable	µg/L	*		*	once/month	24 hr. comp.
Nickel, Dissolved	µg/L	*		*	once/month	24 hr. comp.
Silver, Dissolved	µg/L	*		*	once/month	24 hr. comp.
Zinc, Dissolved	µg/L	*		*	once/month	24 hr. comp.

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE AUGUST 28, 2004.

Whole Effluent Toxicity (WET) Test	% Survival		See Special Conditions	once/year in March	24 hr. comp.
Toxic Organics		*****		*****	once/year grab

MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE OCTOBER 28, 2004 .

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I, II & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective January 1, 2005 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001 Flow	MGD	*		*	once/day	24 hr. total
Carbonaceous Biochemical Oxygen Demand$_5$	mg/L		45	25	once/day	24 hr. comp.
Total Suspended Solids	mg/L		45	30	once/day	24 hr. comp.
Dissolved Oxygen	mg/L	*		*	once/week	grab
Temperature	°C	*			once/day	grab
pH – Units	SU	**		**	once/day	grab
Oil & Grease	mg/L	15		10	once/month	grab
Fecal Coliform***	#/100mL	1000		400	once/week	grab
Total Residual Chlorine (Note 1)	mg/L	.046		.021	once/day	grab
Organic Nitrogen	mg/L	*		*	once/month	grab
Ammonia Nitrogen – winter	mg/L	74		45	once/month	grab
Ammonia Nitrogen - summer	mg/L	41		25	once/month	grab
Nitrite & Nitrate	mg/L	*		*	once/month	grab
Total Phosphorus	mg/L	*		*	once/month	grab
Hardness as $CaCO_3$	mg/L	*		*	once/month	grab
Arsenic, Dissolved	µg/L	780		534	once/month	24 hr. comp.
Cadmium, Total Recoverable	µg/L	163		112	once/month	24 hr. comp.
Chromium, Dissolved	µg/L	149		102	once/month	24 hr. comp.
Copper, Dissolved	µg/L	134		92	once/month	24 hr. comp.
Lead, Dissolved	µg/L	359		246	once/month	24 hr. comp.
Mercury, Total Recoverable	µg/L	6.0		4.0	once/month	24 hr. comp.
Nickel, Dissolved	µg/L	*		*	once/month	24 hr. comp.
Silver, Dissolved	µg/L	26		18	once/month	24 hr. comp.
Zinc, Dissolved	µg/L	1148		786	once/month	24 hr. comp.
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE FEBRUARY 28, 2005.						
Whole Effluent Toxicity (WET) Test	% Survival		See Special Conditions		once/year in March	24 hr. comp.
Toxic Organics		*****		*****	once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE OCTOBER 28, 2005 .						

B. STANDARD CONDITIONS

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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfalls #002 & #003						
Flow	MGD	*		*	once/quarter****	grab
Biochemical Oxygen Demand[5]	mg/L	*		*	once/quarter****	grab
Non-Filterable Residue	mg/L	*		*	once/quarter****	grab
Temperature	°C	*		*	once/quarter****	grab
pH-Units	SU	**		**	once/quarter****	grab
Oil & Grease	mg/L	15		10	once/quarter****	grab
Settleable Solids	mg/L	1.5		1.0	once/quarter****	grab
Organic Nitrogen	mg/L	*		*	once/quarter****	grab
Ammonia Nitrogen	mg/L	*		*	once/quarter****	grab
Nitrite & Nitrate	mg/L	*		*	once/quarter****	grab
Total Phosphorus	mg/L	*		*	once/quarter****	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2004. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I, II & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Instream Monitoring Requirement						
Outfall #004 – Upstream of discharge in center of chute						
Biochemical Oxygen Demand[5]	mg/L	*			once/quarter****	grab
Total Suspended Solids	mg/L	*			once/quarter****	grab
Temperature	°C	*			once/quarter****	grab
pH-Units	SU	*			once/quarter****	grab
Dissolved Oxygen	mg/L	*			once/quarter****	grab
Ammonia as N	mg/L	*			once/quarter****	grab
Nitrite & Nitrate as N	mg/L	*			once/quarter****	grab
Fecal Coliform***	#/100Ml	*			once/quarter****	grab
Total Dissolved Solids	mg/L	*			once/quarter****	grab
Hardness as $CaCO_3$	mg/L	*			once/quarter****	grab
Outfall #005 – Peruque Creek ¼ mile upstream of confluence with chut						
Biochemical Oxygen Demand[5]	mg/L	*			once/quarter****	grab
Total Suspended Solids	mg/L	*			once/quarter****	grab
Temperature	°C	*			once/quarter****	grab
pH-Units	SU	*			once/quarter****	grab
Dissolved Oxygen	mg/L	*			once/quarter****	grab
Ammonia as N	mg/L	*			once/quarter****	grab
Nitrite & Nitrate as N	mg/L	*			once/quarter****	grab
Fecal Coliform***	#/100mL	*			once/quarter****	grab
Total Dissolved Solids	mg/L	*			once/quarter****	grab
Hardness as $CaCO_3$	mg/L	*			once/quarter****	grab
Outfall #006 – ¼ mile downstream of discharge in center of mixing plume						
Biochemical Oxygen Demand[5]	mg/L	*			once/quarter****	grab
Total Suspended Solids	mg/L	*			once/quarter****	grab
Temperature	°C	*			once/quarter****	grab
pH-Units	SU	*			once/quarter****	grab
Dissolved Oxygen	mg/L	*			once/quarter****	grab
Ammonia as N	mg/L	*			once/quarter****	grab
Nitrite & Nitrate as N	mg/L	*			once/quarter****	grab
Fecal Coliform***	#/100mL	*			once/quarter****	grab
Total Dissolved Solids	mg/L	*			once/quarter****	grab
Hardness as $CaCO_3$	mg/L	*			once/quarter****	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2004 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I, II & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitoring requirement only.
** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.
*** Final limitations and monitoring requirements for Fecal Coliform are applicable only during the recreational season for April 1 through October 31.
**** Samples shall be taken in March, June, September, and December.
***** Total Organics – The concentrations of each of the following toxic chemicals in effluent from Outfall #001 shall be determined on a yearly basis unless O'Fallon is able to demonstrate that criteria for these compounds are met end-of-pipe.

10 CSR 20-7.031 Table A

1. ORGANICS – All compounds listed
2. PERSISTENT BIOACCUMULATIVE TOXICS & CARCINOGENS – All compounds listed
3. VOLATILE ORGANICS – All compounds
4. POLYNUCLEAR AROMATIC HYDROCARBONS – All compounds
5. PHTHALATE ESTERS – All compounds

Note 1 - This permit contains a Total Residual Chlorine (TRC) limit.

a. If the TRC limit in this permit is 0.01 mg/L or 0.2 mg/L, you must use an analytical method that has a quantification limit of no greater than 0.05 mg/L TRC. For reporting purposes on the discharge monitoring report (DMR), all analytical values below 0.05 mg/L shall be reported as "<quantlim." All analytical values at or above the quantification limit of 0.05 mg/L shall be reported as the measured value. The permittee shall report the quantification limit in the remarks section of the DMR.

   The average monthly effluent values for TRC will be determined by assuming that analytical results below the quantification limit are equivalent to 0 mg/L when calculating the monthly average.

   The daily effluent value will be considered equal to 0 mg/L if it is below the quantification limit.

b. If the TRC limit in this permit is 1.0 mg/L; you must use an analytical method with a quantification limit between 0.2 and 0.5 mg/L. All analytical values below the quantification limit shall be reported as "<quantlim." All analytical values at or above the quantification limit shall be reported as the measured value.

   The average monthly effluent values for TRC will be determined by assuming that analytical results below the quantification limit are equivalent to 0 mg/L when calculating the monthly average.

   The daily effluent value will be considered equal to 0 mg/L if it is below the quantification limit.

c. Disinfection is required year-round unless the permit specifically states that "Final limitations and monitoring requirements for Fecal Coliform are applicable only during the recreational season from April 1 through October 31." If your permit does not require disinfection during the non-recreational months, do not chlorinate in those months.

d. Do not chemically dechlorinate if it is not needed to meet the limits in your permit.

e. If no chlorine was used in a given sampling period, an actual analysis is not necessary. Simply report as "0 mg/L" TRC.

C. SPECIAL CONDITIONS

1. General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
   a. Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
   b. Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
   c. Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
   d. Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
   e. There shall be no significant human health hazard from incidental contact with the water;
   f. There shall be no acute toxicity to livestock or wildlife watering;
   g. Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
   h. Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

2. All outfalls must be clearly marked in the field.

3. Report as no-discharge when a discharge does not occur during the report period.

4. This permit may be reopened and modified, or alternatively revoked and reissued, to:
   a. Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
   b. contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
   c. controls any pollutant not limited in the permit.
   d. Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri’s Water Quality Standards.
   e. Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri’s list of waters of the state not fully achieving the state’s water quality standards, also called the 303(d) list.

   The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

C. SPECIAL CONDITIONS (Continued)

5. Changes in Discharges of Toxic Substances. The permittee shall notify the Director as soon as it knows or has reason to believe:
   a. That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
      (1) One hundred micrograms per liter (100 µg/L);
      (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
      (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
      (4) The level established in Part A of the permit by the Director.

   b. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

6. All paint, solvents, petroleum products, petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) shall be stored so that these materials are not exposed to storm water. Spill prevention, control and/or management shall be provided sufficient to prevent any spills of these pollutants from entering a water of the state. Any contaminant system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.

7. Good housekeeping practices shall be maintained on the site to keep solid waste from entry into waters of the state.

8. All fueling facilities present on the site shall adhere to applicable federal and state regulations concerning underground storage, above ground storage, and dispensers, including spill prevention, control and counter measures.

9. Substances regulated by federal law under the Resource Conservation and Recovery Act (RCRA) or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) that are transported, stored or used for maintenance, cleaning or repair shall be managed accordingly to the provisions of RCRA or CERCLA.

10. An individual shall be designated by the permittee as responsible for environmental matters. Staff of the permitted facility shall inspect, on workdays, any structures that function to prevent pollution of storm water or to improve pollutants from storm water and of the facility in general to ensure that any Best Management Practices are continually implemented and effective.

11. All involved personnel shall be trained in material handling and storage, and housekeeping of maintenance area. Upon request, proof of training shall be submitted to the Department.

C. SPECIAL CONDITIONS (Continued)

12. Sewage Sludge Requirements for General Public Use

a. General Requirements

(1) Applicability. Sewage sludge will be considered as meeting the requirements of the U.S. Environmental Protection Agency for Class A biosolids criteria and will be considered suitable for general public use when the permittee meets the requirements under this permit special condition. General public use means the biosolids are suitable for all types of crops and vegetation including use in residential areas, public use areas and for horticulture, silviculture and agricultural uses.

(2) Other Environmental Regulations. This permit does not pertain to requirements under any other environmental laws and regulations. For information on applicable requirements under the Missouri Solid Waste Management Law, Chapter 260, RSMo, contact the Solid Waste Management Program at (573) 751-5401. For general information on other environmental regulations, contact the Technical Assistance Program at (573) 526-6627.

(3) Facility Description.
(a) A mechanically cleaned fine screen is used to remove all fine solids from the influent raw wastewater. A manually cleaned bar screen is provided in the event the mechanical unit is not operational. Screenings will be removed and landfilled.
(b) A grit chamber designed to remove 90% of 65 mesh or larger grit particles with a specific gravity of 2.65 or higher follows the mechanical screen. The grit is removed and landfilled.
(c) Primary underflow solids and thickened waste activated sludge is pumped to a blending tank.
(d) The sludge in the blending tank is de-watered on gravity belt thickeners followed by a belt filter press to a solids concentration of approximately 20 percent.
(e) The filtered solids are next delivered by a conveyor belt to the lime stabilization and RDP EnVessel© Pasteurization unit capable of processing 2.4 dry tons per hour to EPA Class A pathogen reduction and vector attraction standards. The unit consists of a lime storage silo and feed system, a ThermoBlending unit to mix the quicklime with the dewatered sludge solids and raise the temperature to 70^0 C, and a pasteurization vessel designed to maintain the biosolids at a temperature of 70^0 C for 30 minutes in order to reduce pathogens to Class A standards. The Class A vector reduction criteria will be met by maintaining the pH of the biosolids to 12 for at least two hours.
(f) The finished biosolids will be delivered by conveyor belt to either the storage area or directly to trucks to haul the biosolids to land application sites.

b. Management Requirements.

(1) Fertilizer Registration.
(a) Department permitting and tracking of land application sites will not be required if the biosolids product obtains and maintains a valid registration as a fertilizer under the Missouri Fertilizer Law, Section 266.291-266.351, RSMo and regulations.
(b) Biosolids product that is not registered as a fertilizer is not approved for general public use and must comply with record keeping and reporting requirements under permit Standard Conditions Part III for all final biosolids product, including free public distribution.

C. SPECIAL CONDITIONS (Continued)

(2) Odor Control. Odor control facilities will be provided and maintained as necessary to prevent nuisance conditions and to comply with requirements under the Missouri Air Conservation law and regulations.

(3) Biosolids Management Plan. The permittee must maintain an updated biosolids management plan and an updated operation manual for the wastewater treatment facility including the biosolids facility. These documents should be maintained and be accessible at the facility and must include: operation procedures for all equipment items; safety and emergency procedures; monitoring, testing and reporting requirements; and records management.

c. Biosolids Quality Requirements.

(1) Requirements for Class A Biosolids. The density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis) in accordance with 40 CFR 503.32(a)(7).

(2) Requirements for Class B Biosolids. Biosolids that do not meet the pathogen reduction requirements for Class A biosolids will be considered Class B biosolids provided that the same biosolids treatment process train is used as described herein.

(3) General Requirements for Class A or Class B Biosolids
(a) Metals concentrations shall not exceed the quality concentrations in 40 CFR 503.13, Table 3 and Water Quality Guide WQ-425, Tables 2 and 3.
(b) Priority pollutants shall not exceed the median concentrations for municipal sludges based on the Statistical Analysis of 1988 EPA National Sewage Sludge Survey, Proceedings of the Industrial Wastewater/Sludge Land Application Training Workshop, University of Missouri Agricultural Engineering Extension, May 7, 1997. Copies may be obtained by contacting Bob Broz, University Extension at (573) 882-0085.

d. General Public Use Requirements.

(1) Information Sheet for Users. An information/instruction sheet shall be provided to each user of the final biosolids product to provide information on nutrient content, appropriate application rates and other pertinent information for proper handling and use of the biosolids. A copy of the information sheet shall be submitted to the department for review and approval within 90 days after permit issuance.

(2) Land Application Rate. Biosolids that is land applied on an annual basis shall not exceed either one of the following criteria:
(a) Application rates shall not exceed the annual plant available nutrient requirements for nitrogen and phosphorus based on the vegetation to be grown, a realistic crop yield goal, soil testing results and testing of the biosolids for nutrient content.
(b) Application rate shall not exceed two (2.0) dry tons per acre/yr.

(3) Use of Biosolids for Land Reclamation. Approval for use of biosolids for land reclamation must be granted by the U.S. Environmental Protection Agency.

(4) Agricultural Use of Biosolids. Sewage sludge that does not meet the requirements for general public use may still be land applied in accordance with permit Standard Conditions Part III.

C. SPECIAL CONDITIONS (Continued)

e. Monitoring and Testing Requirements

(1) Process Monitoring.
(a) Monitoring of the biosolids process shall be such as to maintain final product quality. This shall include, but not be limited to testing and recording the solids concentrations at appropriate points along the process train, monitoring of polymer feed rates to the gravity belt thickeners, lime feed rates to the blending unit, pH and temperature in the pasteurization unit, and material volumes and weights that are processed.
(b) A log book shall be maintained that will provide a record of the amount of material being processed, the units that are kept in operation, polymer feed rates, equipment maintenance activities, and operational problems.

(2) Final Product Testing. Samples of the final biosolids product that are to be considered ready for public distribution shall be sampled and tested as follows. All sampling and testing shall be done in accordance with procedures contained in either Standard Methods or in EPA/625/R-92/013 "Environmental Regulations and Technology; Control of Pathogens and Vector Attraction in Sewage Sludge."
(a) For MPN fecal coliform bacteria, the permittee shall once each week collect and test a composite sample made from four individual samples collected over a 1-hour period. If the test is not to be conducted within one hour after sample collection, the composite sample shall be cooled to below 10^0 C, and tested for MPN fecal coliform bacteria within 6-hours after sample collection.
(b) Once per month, collect and test a sample composited from four individual samples collected over an 8-hour period for the following: organic nitrogen, ammonia nitrogen, nitrate nitrogen, total phosphorus, total potassium, sodium, calcium, magnesium, pH, and percent moisture.
(c) Once per quarter, collect and test a sample composited from four individual samples collected over an 12-hour period for the ten metals listed in WQ-425 Table 2.
(d) Once per year, collect and test a sample composited from four individual samples collected over an 12-hour period for the Priority Pollutants listed in 40 CFR 122.21 Appendix D, Tables II and III.

f. Records and Reporting Requirements.

(1) Time, locations and results shall be recorded for each monitoring requirement and maintained for at least three years. Copies of these records shall be made available to the department upon request.

(2) Records of amounts, dates, names and addresses shall be kept for all persons receiving biosolids in bulk quantities of more than 2,000 pounds. If the biosolids is registered as a fertilizer, persons receiving 1.0 cubic yard of biosolids or less do not need to be identified but the total quantity of biosolids distributed in this manner must be recorded.

(3) An annual report shall be submitted by January 28 of year to summarize biosolids production activities, monitoring results and documentation of fertilizer registration. A copy of the individual laboratory reports and daily records need not be submitted unless requested by the department. The reports shall be submitted to the St. Louis Regional Office and EPA Region VII office as part of the annual sludge report in permit Standard Conditions Part III.

C. SPECIAL CONDITIONS (Continued)

(4) All reporting requirements as contained in "Part III – Sludge and Biosolids from Domestic Wastewater Treatment Facilities" of the Standard Conditions contained in this permit shall apply.

13. Whole Effluent Toxicity (WET) tests shall be conducted as follows:

SUMMARY OF WET TESTING FOR THIS PERMIT				
OUTFALL	A.E.C. %	FREQUENCY	SAMPLE TYPE	MONTH
001	10%	Annually	24 hr. comp.	March

a. Test Schedule and Follow-Up Requirements.

(1) Perform a single-dilution test in the months and at the frequency specified above. If the effluent passes the test, do not repeat the test until the next test period. Submit test results along with complete copies of the test reports as received from the laboratory within 30 calendar days of availability to the WPP, Water Quality Monitoring and Assessment Section, P.O. Box 176, Jefferson City, MO 65102.

(2) If the effluent fails the test, a multiple dilution test shall be performed within 30 calendar days, and biweekly thereafter, until one of the following conditions are met:
(a) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
(b) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.

(3) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WPP, Water Quality Monitoring and Assessment Section, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.

(4) Additionally, the following shall apply upon failure of the third test: A toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall contact WPP, Water Quality Monitoring and Assessment Section to ascertain as to whether a TIE or TRE is appropriate. The permittee shall submit a plan for conducting a TIE or TRE to the Planning Section of the WPP within 60 calendar days of the date of DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.

(5) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.

(6) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.

(7) All failing test results shall be reported to WPP, Water Quality Monitoring and Assessment Section, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.

C. SPECIAL CONDITIONS (Continued)

(8) When WET test sampling is required to run over one DMR period, each DMR report shall contain information generated during the reporting period.

(9) Submit a concise summary of all test results with the annual report.

b. PASS/FAIL procedure and effluent limitations:

(1) To pass a single-dilution test, mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; p = 0.05) than that observed in the upstream receiving-water control sample. The appropriate statistical tests of significance will be those outlined in the most current USEPA acute toxicity manual or those specified by the MDNR.

(2) To pass a multiple-dilution test:
(a) the computed percent effluent at the edge of the zone of initial dilution, Acceptable Effluent Concentration (AEC), must be less than three-tenths (0.3) of the LC_{50} concentration for the most sensitive of the test organisms; or,
(b) all dilutions equal to or greater than the AEC must be nontoxic. Failure of one multiple-dilution test is an effluent limit violation.

c. Test Conditions

(1) Test Type: Acute Static non-renewal

(2) Test species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.

(3) Test period: 48 hours at the "Acceptable Effluent Concentration" (AEC) specified above.

(4) When dilutions are required, upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.

(5) Single-dilution tests will be run with:
(a) Effluent at the AEC concentration;
(b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
(c) reconstituted water.

C. SPECIAL CONDITIONS (Continued)

(6) Multiple-dilution tests will be run with:
  (a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, 1/2 AEC and 1/4 AEC;
  (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
  (c) reconstituted water.

(7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.

D. Schedule of Compliance

By December 31, 2004, the permittee shall complete construction of UV facilites as authorized in MDNR construction permit 22-6583, issued on December 2, 2003, in order to bring the treatment plant into compliance with final effluent limitation.

SUMMARY OF TEST METHODOLOGY FOR WHOLE-EFFLUENT TOXICITY TESTS

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless more stringent methods are specified by the DNR,the procedures shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,

Test conditions for Ceriodaphnia dubia:

Test duration:	48 h
Temperature	25 ± 1°C Temperature shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light, 8 h dark
Size of test vessel:	30 mL (minimum)
Volume of test solution:	15 mL (minimum)
Age of test organisms:	<24 h old
No. of animals/test vessel:	5
No. of replicates/concentration:	4
No. of organisms/concentration:	20 (minimum)
Feeding regime:	None (feed prior to test)
Aeration:	None
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test acceptability criterion:	90% or greater survival in controls

Test conditions for (Pimephales promelas):

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light/ 8 h dark
Size of test vessel:	250 mL (minimum)
Volume of test solution:	200 mL (minimum)
Age of test organisms:	1-14 days (all same age)
No. of animals/test vessel:	10
No. of replicates/concentration:	4 (minimum) single dilution method 2 (minimum) multiple dilution method
No. of organisms/concentration:	40 (minimum) single dilution method 20 (minimum) multiple dilution method
Feeding regime:	None (feed prior to test)
Aeration:	None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min.
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test Acceptability criterion:	90% or greater survival in controls